

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179-10, 36 FR 21352, Nov. 6, 1971]

§ 179.201-3 Lined tanks.

(a) *Rubber-lined tanks.* (1) Each tank or each compartment thereof must be lined with acid-resistant rubber or other approved rubber compound vulcanized or bonded directly to the metal tank, to provide a nonporous laminated lining, at least $\frac{5}{32}$ -inch thick, except overall rivets and seams formed by riveted attachments in the lining must be double thickness. The rubber lining must overlap at least $1\frac{1}{2}$ inches at all edges which must be straight and be beveled to an angle of approximately 45° , or butted edges of lining must be sealed with a 3-inch minimum strip of lining having 45° beveled edges.

(2) As an alternate method, the lining may be joined with a skived butt seam then capped with a separate strip of lining 3 inches wide having 45° beveled edges. An additional rubber reinforcing pad at least $4\frac{1}{2}$ feet square and at least $\frac{1}{2}$ -inch thick must be applied by vulcanizing to the lining on bottom of tank directly under the manway opening. The edges of the rubber pad must be beveled to an angle of approximately 45° . An opening in this pad for sump is permitted. No lining must be under tension when applied except due to conformation over rivet heads. Interior of tank must be free from scale, oxidation, moisture, and all foreign matter during the lining operation.

(3) Other approved lining materials may be used provided the material is resistant to the corrosive or solvent action of the lading in the liquid or gas phase and is suitable for the service temperatures.

(b) Before a tank car tank is lined with rubber, or other rubber compound, a report certifying that the tank and its equipment have been brought into compliance with spec. DOT-103B, 103BW, 111A60W5, or 111A100W5 must be furnished by car owner to the party who is to apply the lining. A copy of this report in approved form, certifying that tank has been lined in compliance with all requirements of one of the above specifications, must be furnished

by party lining tank to car owner. Reports of the latest lining application must be retained by the car owner until the next relining has been accomplished and recorded.

(c) All rivet heads on inside of tank must be buttonhead, or similar shape, and of uniform size. The under surface of heads must be driven tight against the plate. All plates, castings and rivet heads on the inside of the tank must be calked. All projecting edges of plates, castings and rivet heads on the inside of the tank must be rounded and free from fins and other irregular projections. Castings must be free from porosity.

(d) All surfaces of attachments or fittings and their closures exposed to the lading must be covered with at least $\frac{1}{8}$ -inch acid resistant material. Attachments made of metal not affected by the lading need not be covered with rubber or other acid resistant material.

(e) Hard rubber or polyvinyl chloride may be used for pressure retaining parts of safety vents provided the material is resistant to the corrosive or solvent action of the lading in the liquid or gas phase and is suitable for the service temperatures.

(f) Polyvinyl chloride lined tanks. Tank car tanks or each compartment thereof may be lined with elastomeric polyvinyl chloride having a minimum lining thickness of three thirty-seconds inch.

(g) Polyurethane lined tanks. Tank car tanks or each compartment thereof may be lined with elastomeric polyurethane having a minimum lining thickness of one-sixteenth inch.

[Amdt. 179-10, 36 FR 21352, Nov. 6, 1971, as amended at 66 FR 45186, Aug. 28, 2001]

§ 179.201-4 Material.

All fittings, tubes, and castings and all projections and their closures, except for protective housing, must also meet the requirements specified in ASTM Specification A 262, except that

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when preparing the specimen for testing the carburized surface may be finished by grinding or machining.

[Amdt. 179-10, 36 FR 21353, Nov. 6, 1971, as amended by Amdt. 179-52, 61 FR 28681, June 5, 1996; Amdt. 179-52, 61 FR 50255, Sept. 25, 1996; 66 FR 45186, Aug. 28, 2001]

§ 179.201-5 Postweld heat treatment and corrosion resistance.

(a) Tanks and attachments welded directly thereto must be postweld heat treated as a unit at the proper temperature except as indicated below. Tanks and attachments welded directly thereto fabricated from ASTM Specification A 240 Type 430A, Type 304 and Type 316 materials must be postweld heat treated as a unit and must be tested to demonstrate that they possess the corrosion resistance specified in § 179.200-7(d), Footnote 2. Tanks and attachments welded directly thereto, fabricated from ASTM Specification A 240 Type 304L or Type 316L materials are not required to be postweld heat treated.

(b) Tanks and attachments welded directly thereto, fabricated from ASTM Specification A 240 Type 304L and Type 316 materials must be tested to demonstrate that they possess the corrosion resistance specified in § 179.200-7(d), Footnote 2.

[Amdt. 179-10, 36 FR 21353, Nov. 6, 1971, as amended by Amdt. 179-52, 61 FR 28681, June 5, 1996]

§ 179.201-6 Manways and manway closures.

(a) The manway cover for spec. DOT 103ALW, 103DW, 103W, 104W, 111A60-ALW1, 111A60W1, 111A100ALW1, 111A-100W1, 111A100W3, or 111A100W6 must be designed to make it impossible to remove the cover while the interior of the tank is subjected to pressure.

(b) The manway cover for spec. DOT 103BW, 11A60W5, or 111A100W5 must be made of a suitable metal. The top, bottom and edge of manway cover must be acid resistant material covered as prescribed in § 179.201-3. Through-bolt holes must be lined with acid resistant material at least one-eighth inch in thickness. Cover made of metal not affected by the lading need not be acid resistant material covered.

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(c) The manway ring and cover for spec. DOT-103CW, 103DW, 103EW, 111360W7, or 11A100W6 must be made of the metal and have the same inspection procedures specified in AAR Specifications for Tanks Cars Appendix M, M3.03.

(d) The manway ring for DOT-103 ANW must be made of cast, forged or fabricated nickel and be a good weldable quality in conjunction with the metal of the dome. Manway cover must be made of nickel.

[Amdt. 179-10, 36 FR 21353, Nov. 6, 1971; 66 FR 45186, Aug. 28, 2001]

§ 179.201-8 Sampling device and thermometer well.

(a) Sampling valve and thermometer well are not specification requirements. When used, they must be of approved design, made of metal not subject to rapid deterioration by lading, and must withstand a pressure of 100 psig without leakage. Interior pipes of the sampling valve must be equipped with excess flow valves of an approved design. Interior pipe of thermometer well must be closed by an approved valve attached close to fitting where it passes through the tank and closed by a screw plug. Other approved arrangements that permit testing thermometer well for leaks without complete removal of the closure may be used.

(b) [Reserved]

[Amdt. 179-10, 36 FR 21348, Nov. 6, 1971, as amended at 66 FR 45390, Aug. 28, 2001]

§ 179.201-9 Gauging device.

A gauging device of an approved design must be applied to permit determining the liquid level of the lading. The gauging device must be made of materials not subject to rapid deterioration by the lading. When the interior pipe of the gauging device provides a means for passage of the lading from the interior to the exterior of the tank, it must be equipped with an excess flow valve of an approved design. If the opening for passage of lading through the gauging device is not more than 0.060 inch diameter an excess flow valve is not required. The gauging device must be provided with a protective housing.

[Amdt. 179-10, 36 FR 21353, Nov. 6, 1971]